AG-188 User Manual

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1 AG-188 Features

1.1 Appearance

Power: Power indicator.
Server: Server indicator. Registered: ON; Registering: Blinking; Do not register: OFF.
VoIP: Indicate the calling status. Hook-on: OFF; Hook-off and in VoIP state: ON; Hook-off and in PSTN state: OFF

1.2 Interface

Power: Output Power:12VDC,500mA.
Port: RJ11 port. Connect to handset or the Lifeline accessory.
WAN: RJ45 port.
LAN: RJ45 port.

1.3 Electricity characteristic

- **Speciality of electric:** output the 12V 500mA DC

- **The network connects:**2 RJ45 connect, a WAN, a LAN

1.4 Software

- Support two sip servers running at the same time.
- Back-up sip server support.
- NAT, Firewall.
- DHCP client and server.
- Support PPPoE, (used for ADSL, cable modem connecting).
- Support major G7.xxx CODEC.
- VAD,CNG.
- G.168 compliant 32ms echo cancellation
- Tone generation and Local DTMF re-generation according with ITU-T
- E.164 dial plan and customized dial rules
- Support Lifeline.
- Hotline.
- Speed Dial
- Call Forward, Call Transfer, 3-way conference calls
- Caller ID display
- DND(Do Not Disturb),Black List,Limit List
- Upgrade firmware through FTP or HTTP.
- Web management.
- Reverse polarity
- Telnet remote management.
- Voice prompt
- adjustable user password and super password

1.5 Standard and Protocols

- IEEE 802.3 /802.3 u 10 Base T / 100Base TX
- PPPoE: PPP Protocol over Ethernet
- DHCP Client and Server: Dynamic Host Configuration Protocol
- G.711 u/a; G729 audio Codec
- SIP RFC3261, RFC 2543
- TCP/IP: Internet transfer and control protocol
- RTP: Real-time Transport Protocol
- RTCP: Real-time Control Protocol
- VAD/CNG save bandwidth
- Telnet: Internet's remote login protocol
- DNS: Domain Name Server
- TFTP: Trivial File Transfer Protocol
- HTTP: Hyper Text Transfer protocol
- FTP: File Transfer protocol
- RFC 3362：T.38 protocol

1.6 Compliant Standards

- CE: EN55022, EN55044
- FCC part 15
- RoHS

1.7 Operating requirement

- Operation temperature: 0 to 40° C (32° to 104° F)
- Storage temperature: -30° to 65° C (-22° to 149° F)
- Humidity: 10 to 90% no dew

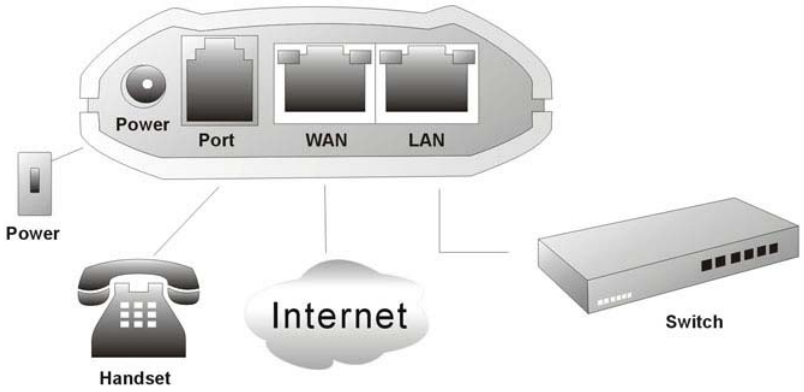
1.8 Package

- Size 128 x 85 x 30 mm
- Packing List
  - ✓ AG-188 gateway
  - ✓ Power adaptor (12v, 500mA)
  - ✓ Manual CD
  - ✓ Lifeline accessory (option)

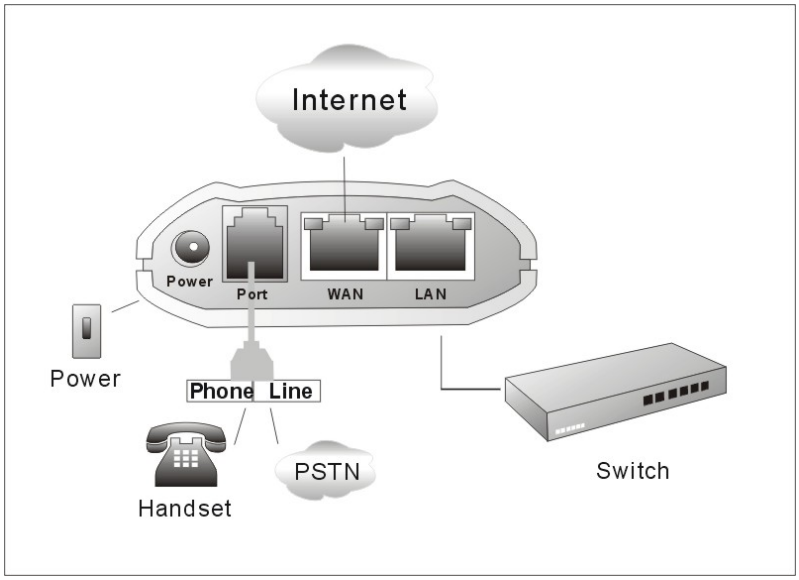
1.9 Installation

Use Ethernet cable to connect AG-188's LAN port and your computer. Set your computer's ip to the network 192.168.10.x or using dynamic obtain IP. Open your web browser and key in 192.168.10.1. Then you will see the logon page of AG-188, the default username and password is **admin/admin** for administrator and **guest/guest** for guest.

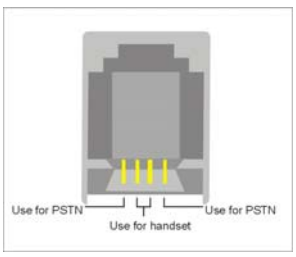
Set up page for VoIP use only:



Set up page for Lifeline support:



Port illustration:

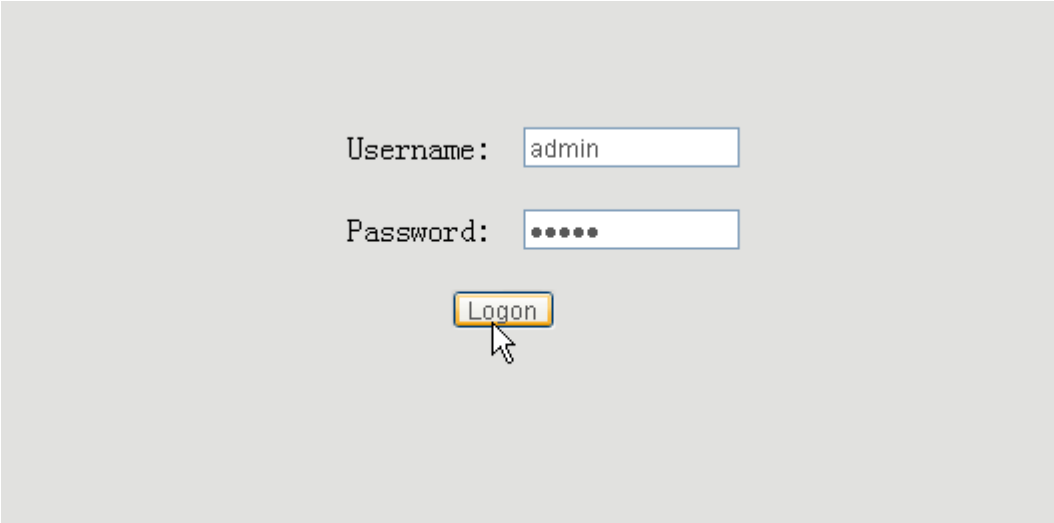


2 Web Configuration

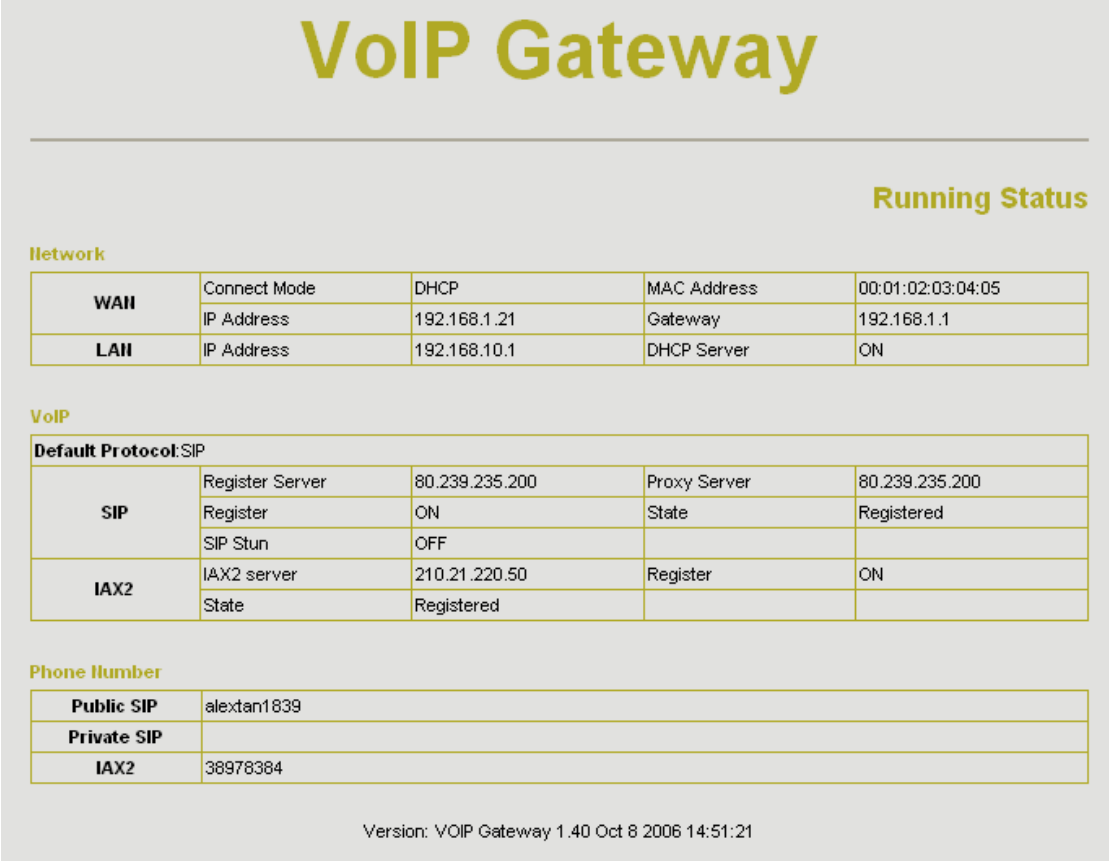
1.1 Access Web setting page

Enter AG-188 IP address in the web browser and press ENTER to go to the log on page, and key in the username and password to access AG-188 setting page.
Default username and password is:

Administrator:	Username: **admin**		password:	**admin**
User:	Username:	**guest**	Username:	**guest**



1.2 Current state



VoIP Gateway

Running Status

Network

WAN	Connect Mode	DHCP	MAC Address	00:01:02:03:04:05
	IP Address	192.168.1.21	Gateway	192.168.1.1
LAN	IP Address	192.168.10.1	DHCP Server	ON

VoIP

Default Protocol:SIP				
SIP	Register Server	80.239.235.200	Proxy Server	80.239.235.200
	Register	ON	State	Registered
	SIP Stun	OFF		
IAX2	IAX2 server	210.21.220.50	Register	ON
	State	Registered		

Phone Number

Public SIP	alextan1839
Private SIP	
IAX2	38978384

Version: VOIP Gateway 1.40 Oct 8 2006 14:51:21

This page shows AG-188's running state.

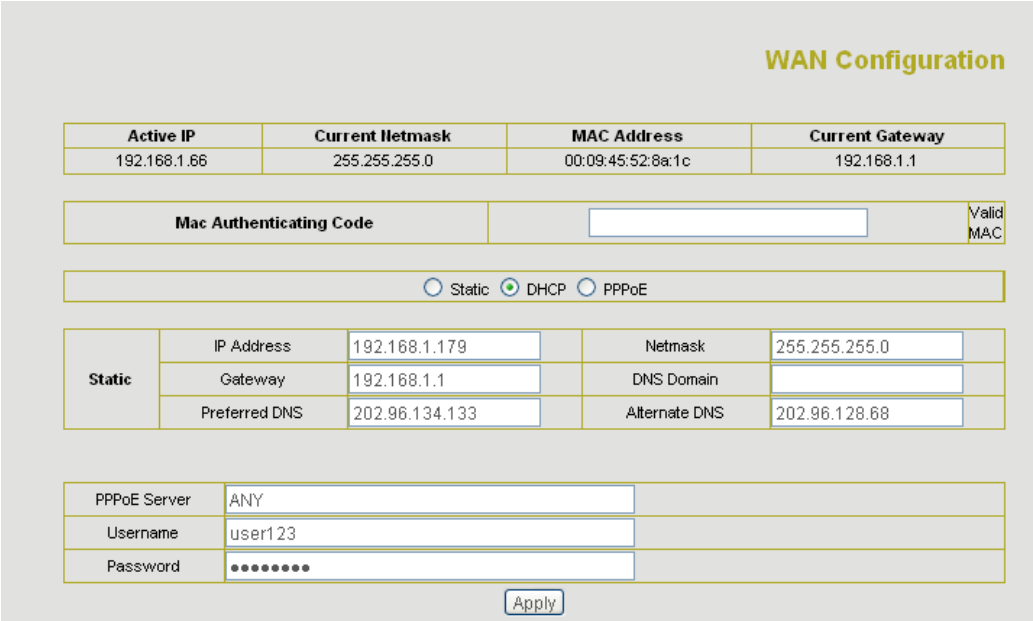
Network ： shows the WAN and LAN port connecting state and current settings.

VoIP: show the default protocol, the working state of SIP and IAX2, you can see whether AG-188 has registered the public sip server and IAX2 server.

Phone Number shows the public sip server、 the private sip server and the IAX2 server phone numbers.

1.3 Network

1.3.1 Wan Config



WAN port network setting page.

Support static IP, dynamic obtain IP and PPPoE.

Configure Static IP:

----Enable Static;

----Set AG-188's IP address in the IP Address;

----Set net mask in the Net mask field;

----Set router IP address in the Gateway;

----DNS Domain:

----Set local DNS server in the Preferred DNS and the Alternate DNS

Configure to dynamic obtain IP

----Enable DHCP;

If there is DHCP server in your local network, AG-188 will automatically obtain WAN port network information from your DHCP server.

Configure PPPoE:

----Enable PPPoE

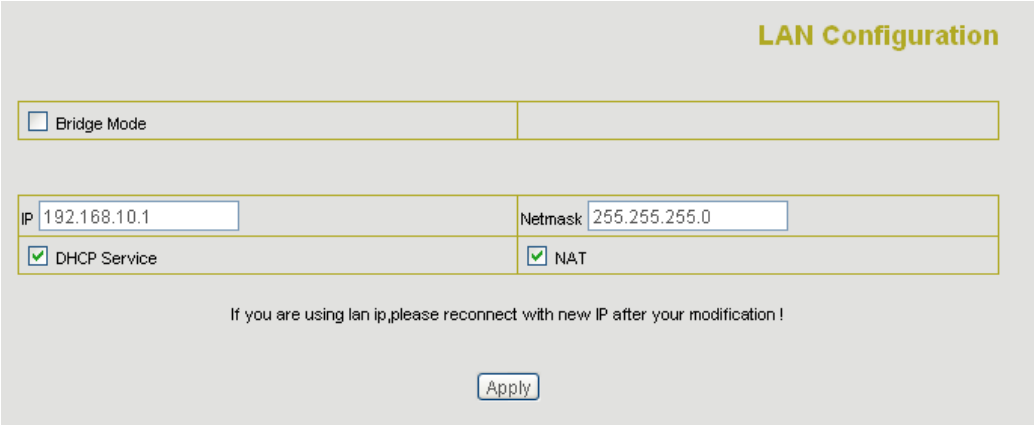
----PPPoE server: Enter "ANY" if no specified from your ITSP.

----Enter PPPoE username and pin in the username and password.

AG-188 will automatically obtain WAN port network information from your ITSP if PPPoE setting and the setup are correct.

Notice: If user accesses the gateway through WAN port. He should use the new IP address to access the gateway when the WAN port address was changed.

LAN Config



Bridge Mode: Enable this option to switch to bridge mode. Gateway won't assign IP for its LAN port in bridge mode and its LAN and WAN port will be in the same network. (This setting won't take effect unless you save the config and reboot the device)

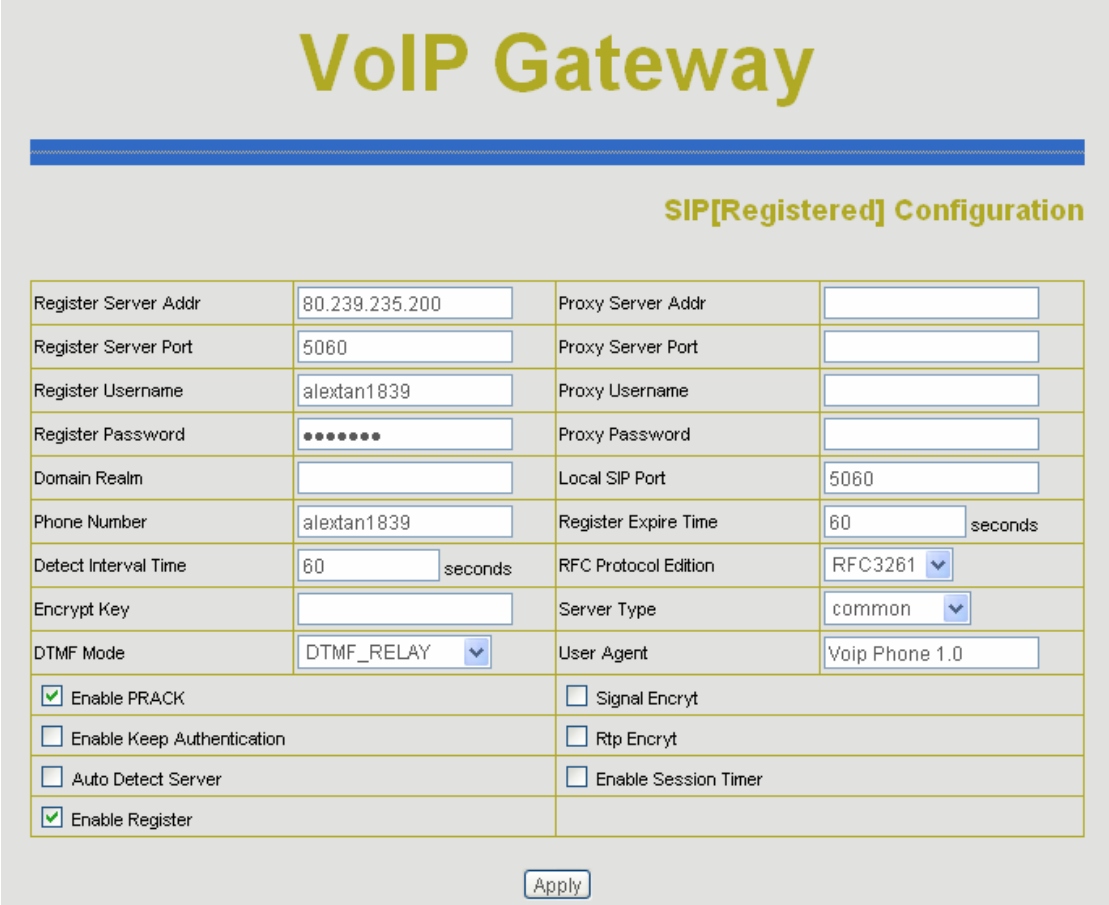
IP Netmask: Set the IP and Netmask for the LAN

DHCP Server: Enable DHCP service in LAN port

NAT: Enable NAT.

1.4 VoIP

2.4.1 SIP Config



Setting page of public SIP server:

Register Server Addr: Register address of public SIP server
Register Server Port: Register port of public SIP server
Register Username: Username of your SIP account (Always the same as the phone number)
Register Password: Password of your SIP account.
Proxy Server Addr: IP address of proxy SIP server (SIP provider always use the same IP for register server and proxy server, in this case you don't need to configure the proxy server information.)
Proxy Server Port: Signal port of SIP proxy
Proxy Username: proxy server username
Proxy Password: proxy server password
Domain Realm: SIP domain, enter the sip domain if any, otherwise AG-188 will use the proxy server address as sip domain.
Local SIP port: Local SIP register port, default 5060
Phone Number: Phone number of your SIP account
Register Expire Time: register expire time, default is 600 seconds. AG-188 will auto configure this expire time to the server recommended setting if it is different from the SIP

server.

Detect Interval Time: Co-work with the Auto Detect Server, if Auto Detect Server is enable, AG-188 will periodically detect if the SIP server is available according this setting.

RFC Protocol Edition: Current AG-188 SIP versions. Set to RFC 2543 if the gate need to communicate to devices (such as CISCO5300) using the SIP 1.0. Default is RFC 3261.

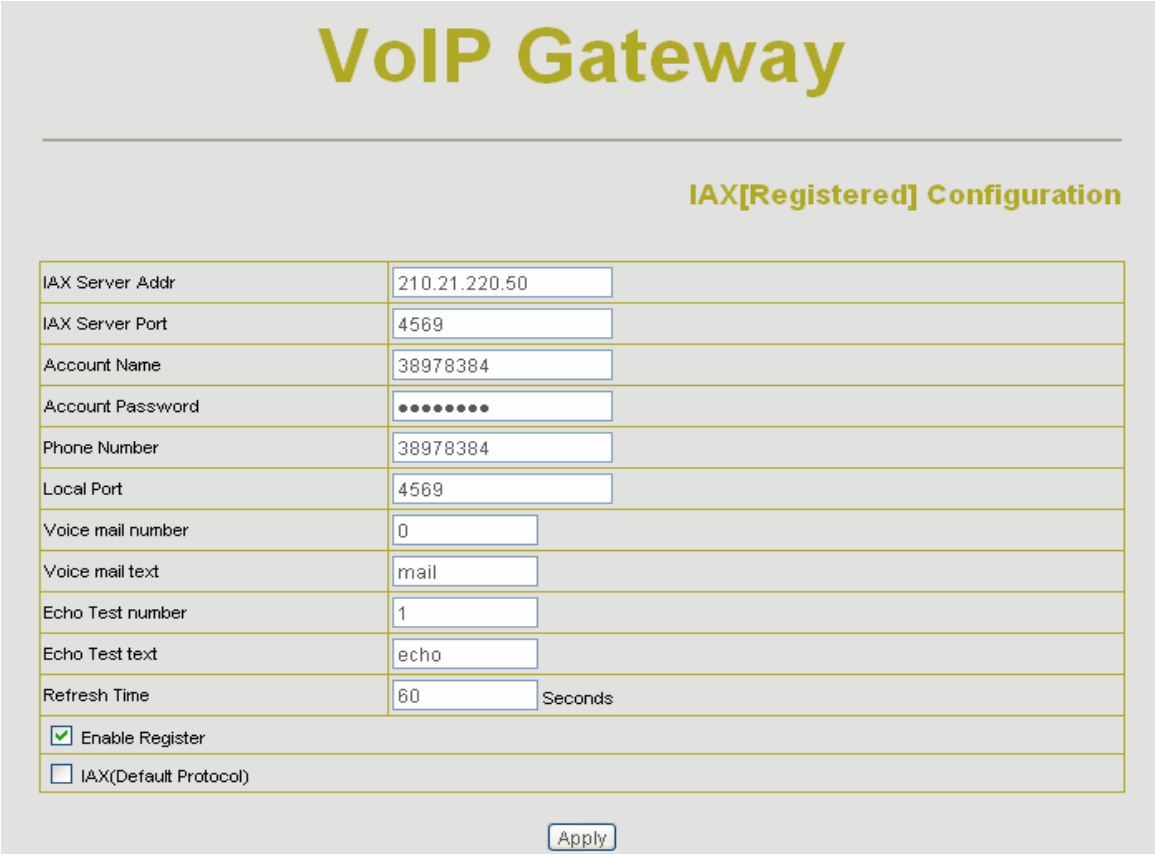
Enable Register: Enable/Disable SIP register. AG-188 won't sent register info to SIP server

DTMF Mode:DTMF signal sending mode: support RFC2833, DTMF_RELAY (inband audio) and SIP info

Auto Detect server: co-work with Server Auto Swap and Detect Interval Time. Enable this option, AG-188 will periodically detect whether the public SIP server is available, if the server is unavailable, the AG-188 will switch to the back-up SIP sever, and continue detecting the public sip server. AG-188 will switch back to the primary SIP server if the server is available again.

Server Auto Swap: Please refer to Auto Detect server for detail.

2.4.2 Iax2 Config



Setting page of public IAX server:

IAX Server Addr: Register address of public IAX server

IAX Server Port: Register port of public IAX server，default port is 4569

Account Name: Username of your SIP account (Always the same as the phone number)

Account Password: Password of your IAX account.

Local port: Signal port of local, default port is 4569

Phone Number: Phone number of your IAX account

Voice mail number: If the IAX support voice mail, but your username of the voice mail is letters which you can not input with the ATA , then you use the number to stand for your username

Voice mail text: if IAX support voice mail, config the domain name of your mail box here.

Echo test number: If the platform support echo test , and the number is test form , the config the test number to replace the text format The echo test is to test the woring status of terminals and platform

Echo test text: echo test number in text format

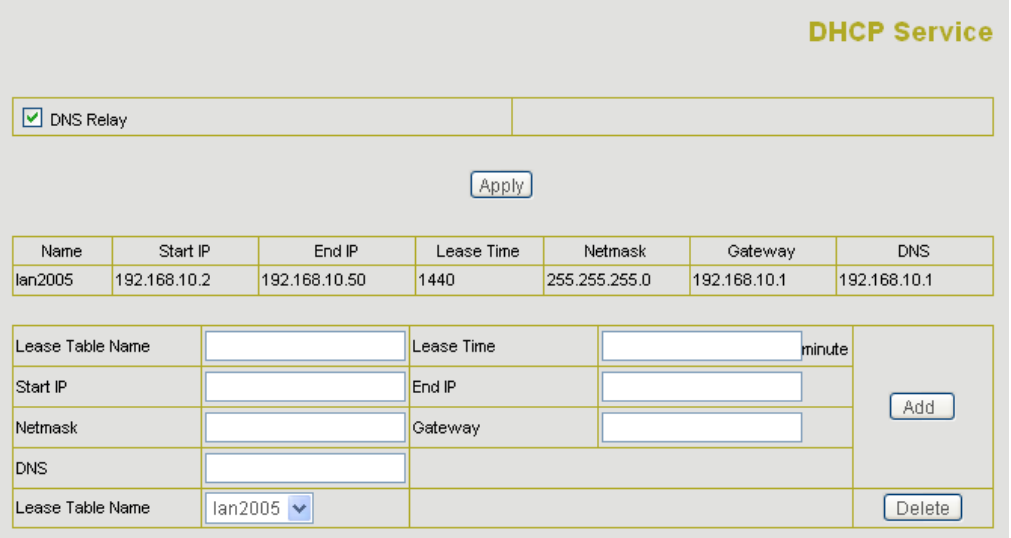
Refresh time: IAX refresh time

Enable Register: enable or disable register

IAX(Default Protocol): Set IAX 2 as the default protocol , if not the system will choose SIP as default

1.5 Advance

1.5.1 DHCP Server



DHCP server manage page.

User may trace and modify DHCP server information in this page.

DNS Relay: enable DNS relay function.

User may use below setting to add a new lease table.

Lease Table Name: Lease table name.

Lease Time: DHCP server lease time.

Start IP: Start IP of lease table.

End IP: End IP of lease table. Network device connecting to the AG-188 LAN port can dynamic obtain the IP in the range between start IP and end IP.

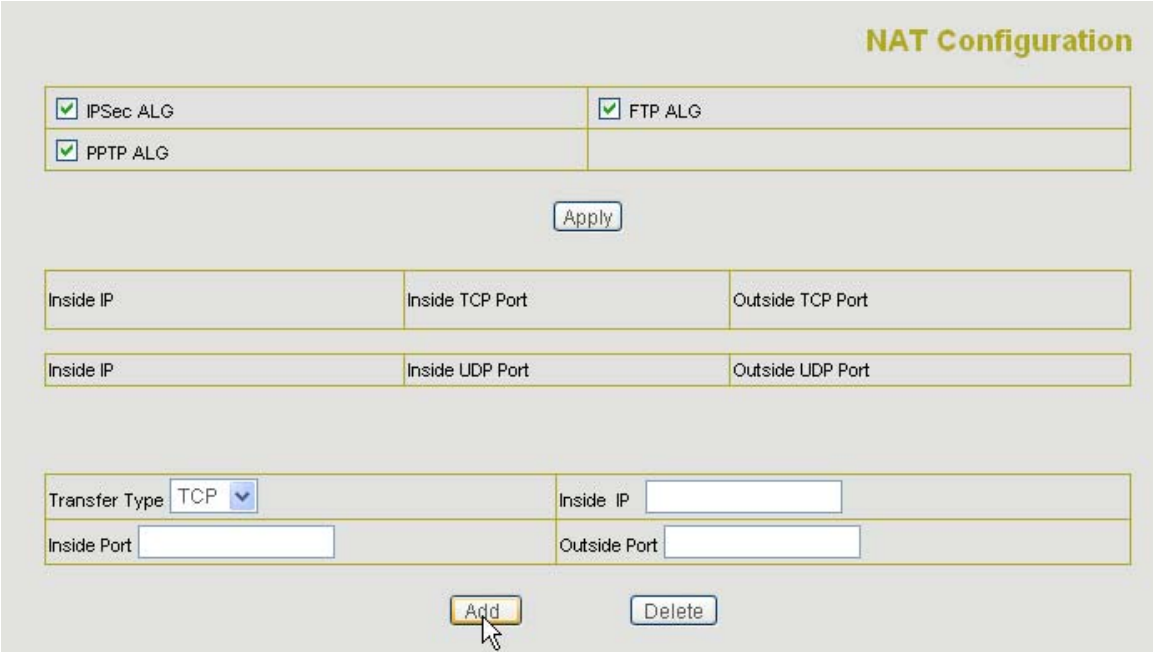
Netmask: Netmask of lease table.

Gateway: Default gateway of lease table

DNS: default DNS server of lease table.

Notice: This setting won't take effect unless you save the config and reboot the device

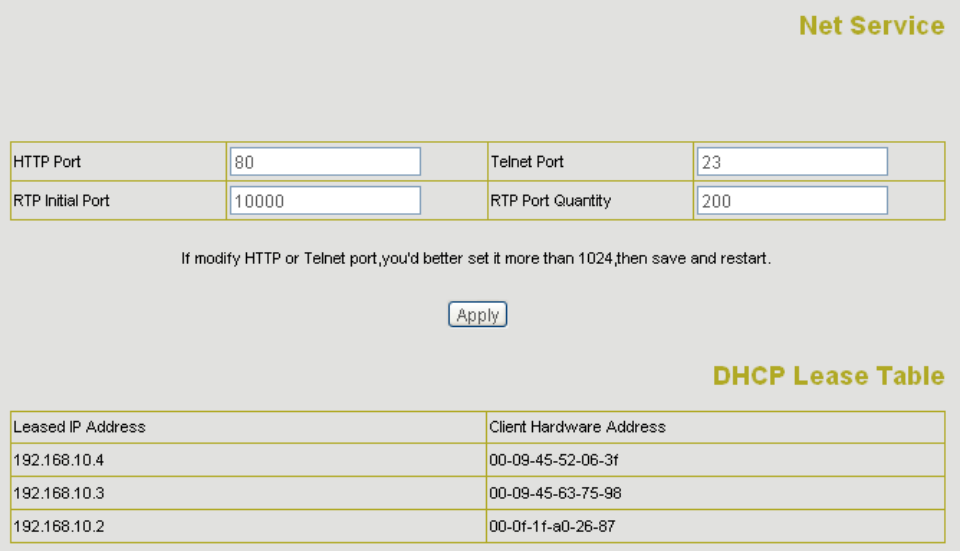
1.5.2 NAT



Advance NAT setting. Maximum 10 items for TCP and UDP port mapping.

IPSec ALG: Enable/Disable IPSec ALG;
FTP ALG: Enable/Disable FTP ALG;
PPTP ALG: Enable/Disable PPTP ALG;
Transfer Type: Transfer type using port mapping.
Inside IP: LAN device IP for port mapping.
Inside Port: LAN device port for port mapping.
Outside Port: WAN port for port mapping.
Click **Add** to add new port mapping item and **Delete** to delete current port mapping item.

1.5.3 Net Service



HTTP Port: configure HTTP transfer port, default is 80.User may change this port to enhance system's security. When this port is changed, please use http://xxx.xxx.xxx.xxx:xxxx/ to reconnect.

Telnet Port: configure telnet transfer port, default is 23.

RTP Initial Port: RTP initial port.

RTP Port Quantity: Maximum RTP port quantity, default is 200

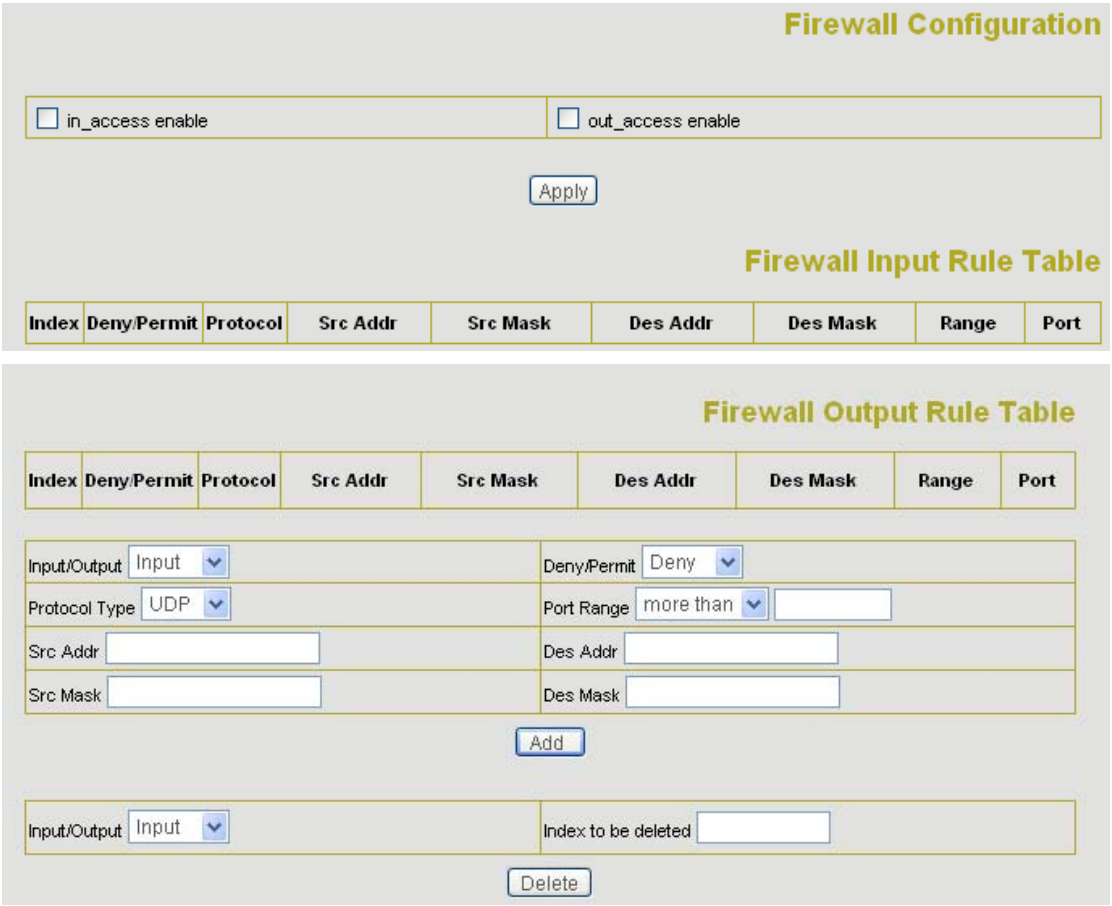
Notice:

Settings in this page won't take effect unless save and reboot the device.

If you need to change telnet port or HTTP port, please use the port greater than 1024, because ports under 1024 is system remain ports.

HTTP service if HTTP is set to 0.

1.5.4 Firewall settings



Firewall setting page. User may set up firewall to prevent unauthorized Internet users from accessing private networks connected to the Internet (input rule), or prevent unauthorized private network devices to access the internet.

Access list support two type limits: input_access limit or output_access limit. Each type support 10 items maximum.

AG-188 firewall filter is base WAN port. So the source address or input destination address should be WAN port IP address.

Configuration:

in_access enable enable in_access rule

out_access enable enable out_access rule

Input/Output: specify current adding rule is input rule or output rule.

Deny/Permit: specify current adding rule is deny rule or permit rule.

Protocol Type: protocol using in this rule: TCP/IP/ICMP/UDP.

Port Range: port range if this rule

Src Addr: source address. can be single IP address or network address.

Dest Addr: destination address.can be IP address or network address.

Src Mask: source address mask. Indicate the source is dedicate IP if set to 255.255.255.255. Otherwise is network ID

Des Mask: Destination address mask. Indicate the source is dedicate IP if set to 255.255.255.255. Otherwise is network ID

1.5.5 QoS settings

AT-530 IP phone implement QoS based on 802.1p, The QoS is used to mark the network communication priority in the data link/MAC sub-layer. AT-530 will sorted the packets using the QoS and sends it to the destination.

VLAN Enable: If enable the VLAN service, the second layer will realize separate voice, signal and data transmission. To realize separate voice and data transmission by dispose for IP precedence of ToS area of voice transmission. To reach upper layer switch or router have priority to transfer voice transmission. (The prerequisite is the upper layer switch or routers have to identify ToS area.)

VLAN ID: Dispose VLAN ID is add a Tag header after realize enable the VLAN function. The realized voice packets transfer at the same VLAN. The prerequisite is it must the same as VLAN of upper switch. The value range are 1~4094.

DiffServ Enable: If enable the VLAN service, it indicates use DSCP mode to realize three layers QoS. This moment, the DSCP of SIP signals which between IP Phone and MGC. It will use Class Selector 5 (The value is 0xA0). And the DSCP of mediums information (In RTP packets) would be used the values of DiffServ Value field.

DiffServ Value: The value range: 0x28,0x30,0x38,0x48,0x50,0x58,0x68,0x70,0x78,0x88,0x90,0x98,0xb8.default is 0xb8 ,oxb8 stands for best fast transmission; 28-30 is guarantee for the transmission priority for the 1st rank , 48-58 is guarantee for the transmission priority for the 2nd rank, 68-78 is guarantee for the transmission priority for the 3rd rank, 88-98 is guarantee for the transmission priority for the 4th rank.

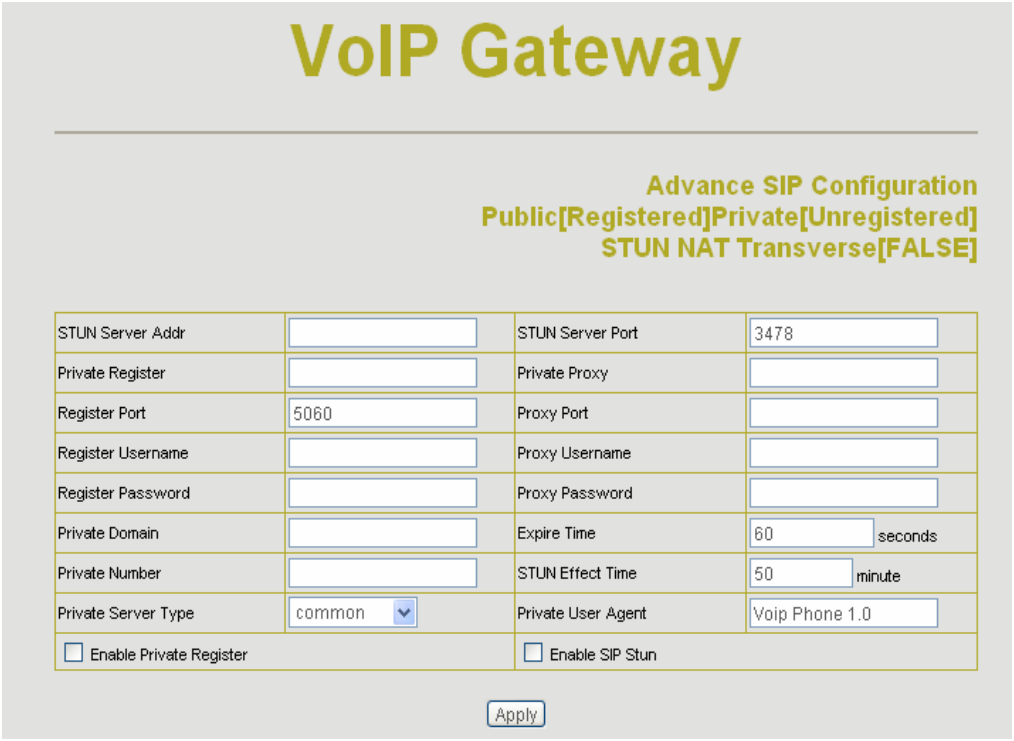
AG-188 Gateway implement QoS based on 802.1p, The QoS is used to mark the network communication priority in the data link/MAC sub-layer. AG-188 will sorted the packets using the QoS and sends it to the destination.

QoS Enable: Enable QoS service.
QoS Table Include: enable include QoS table, AG-188 will only provide QoS service to the network address included in the QoS table. Disable the option. AG-188 provides QoS service to the network address outside the QoS table.

QoS Table Item: user can set the QoS Table using IP and Netmask. the IP can be network address or dedicate IP address (set netmask to 255.255.255.255)

Delete QoS Table: enter the IP/Netmask configure and select delete to delete corresponding item.

1.5.6 Advance SIP settings



This page is used to set the private sip server, stun server, and back up sip server information.

STUN Server setting:

STUN Server Addr: configure stun server address;

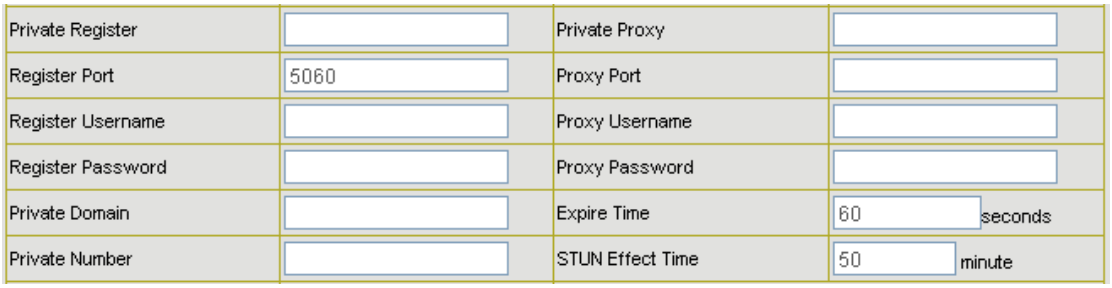
STUN Server Port: configure stun server port default 3478

STUN Effect Time: stun detect NAT type circle, unit: minute.

Enable SIP STUN: enable/disable stun.

Please refer to sip conf for the setting for how to set the public alter server.

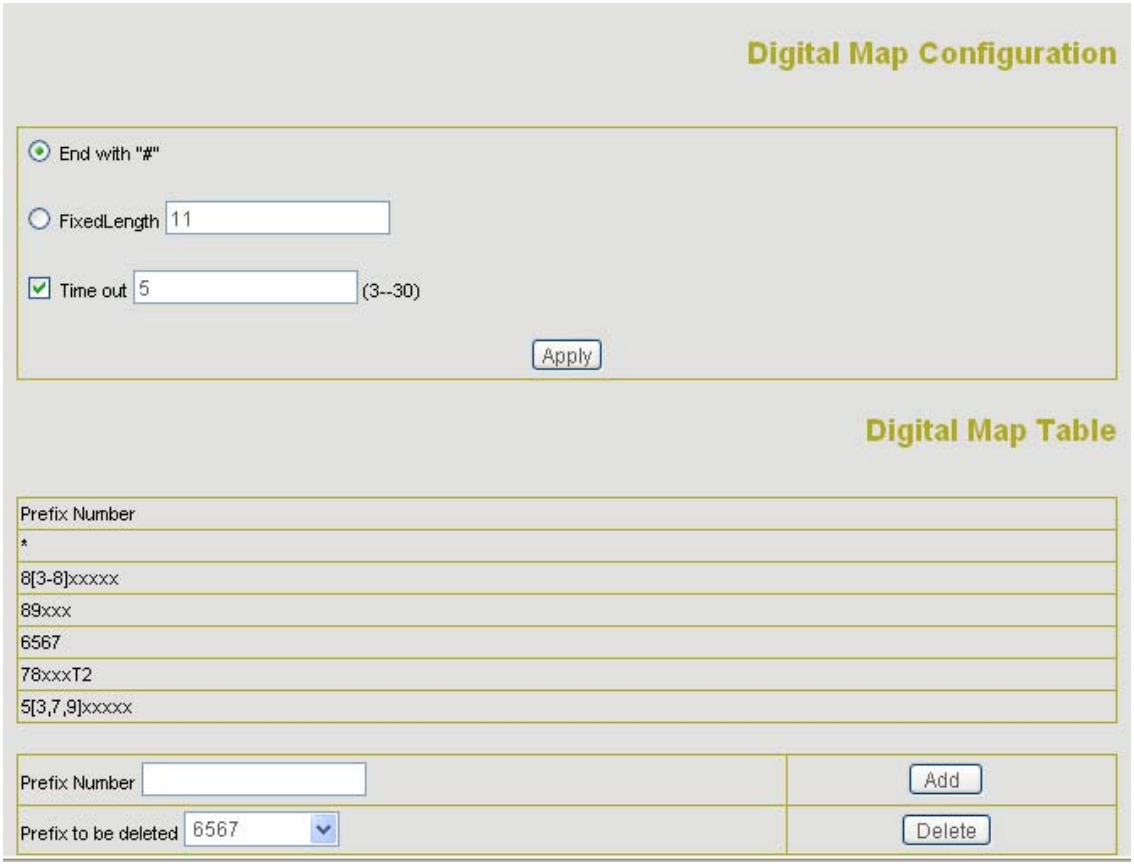
Private Server Type: The particular Private service system supplier carries out the sign and speeches to encrypt, default is common



User can register two sip servers: public sip server and private sip server. these two sip servers are independent from each other and running in the same time.

For how to configure private sip server. Please refer to sip configuration.

1.5.7 Digital Map



Digit map is a set of rules to determine when the user has finished dialing.

AG-188 support below digital map:

Digital Map is based on some rules to judge when user end their dialing and send the number to the server. AG-188 support following digital map:

----End With "#": Use # as the end of dialing.

----Fixed Length: When the length of the dialing match, the call will be sent.

----Timeout: Specify the timeout of the last dial digit. The call will be sent after timeout

----Prefix: User define digital map:

[ ] represents the range of digit, can be a range such as [1-4], or use comma such as [1,3,5], or use a list such as [234]

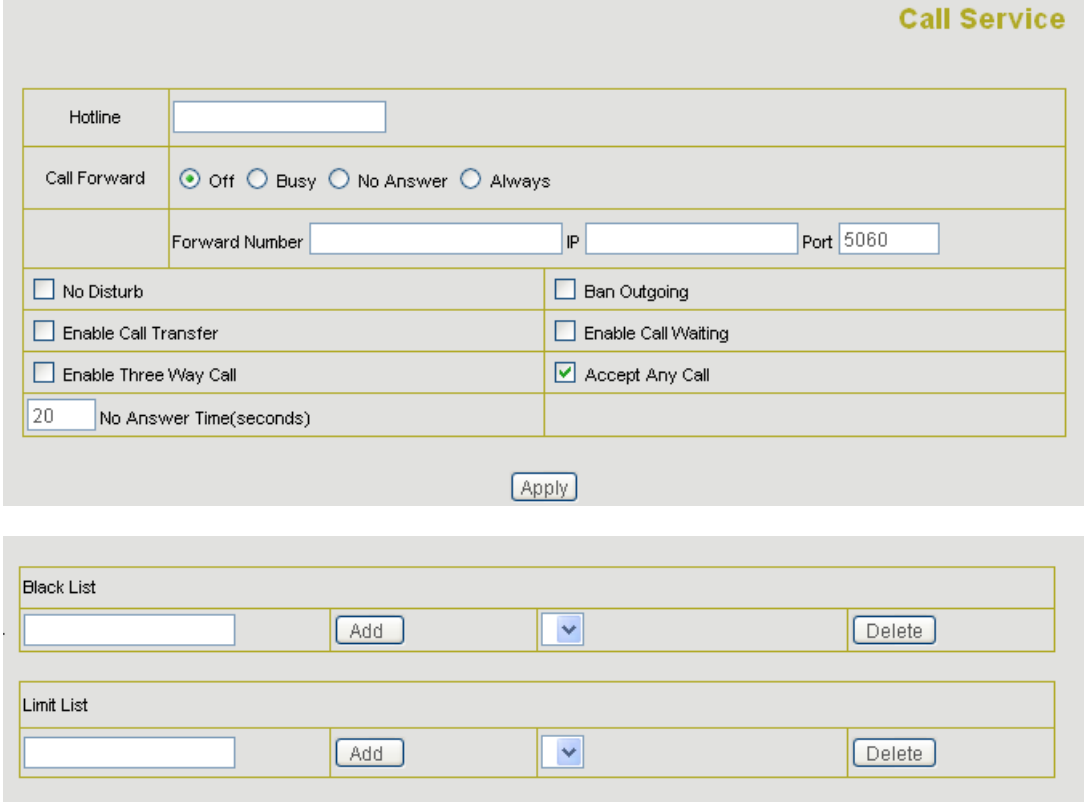
x represents any one digit between 0~9

Tn represents the last digit timeout. n represents the time from 0~9 second, it is necessary. Tn must be the last two digit in the entry. If Tn is not included in the entry, we use T0 as default, it means system will sent the number immediately if the number matches the entry.

Example:

[1-8]xxx	All number from 1000 to 89999 will be sent immediately.
9xxxxxxx	8 digits numbers begin with 9 will be sent immediately.
911	Number 911 will be sent will be immediately
99xT4	3 digits numbers begin with 99 with be sent after four seconds.

1.5.8 Call Service Settings



User configure the value add service such as hotline, call forward, call transfer, 3-way conference call .etc in this page

Hotline: configure hotline number. AG-188 immediately dials this number after hook-off if it is set.

Call Forward: Please refer to value add service for detail.

No Disturb: DND, do not disturb, enable this option to refuse any calls.

Ban Outgoing: Enable this to ban outgoing calls.

Enable Call Transfer: Please refer to value add service for detail.

Enable Three Way Call: Please refer to value add service for detail.

Enable Call Waiting: Enable/disable Call Waiting

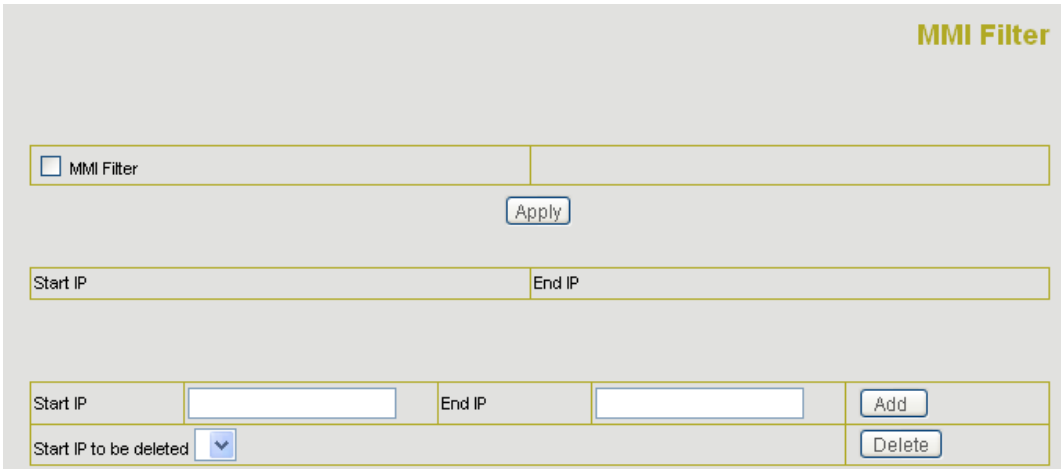
Accept Any Call: If this option is disable, AG-188 refuse the incoming call when the called number is different from AG-188's phone number.

No Answer Time: no answer call forward time setting.

Black List: incoming call in these phone numbers will be refused.

Limit List: outgoing calls with these phone numbers will be refused

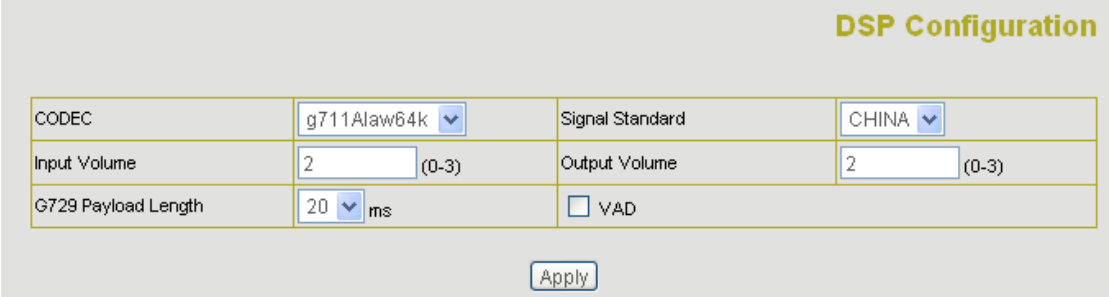
1.5.9 MMI Filter



MMI filter is used to make access limit to AG-188 Gateway.

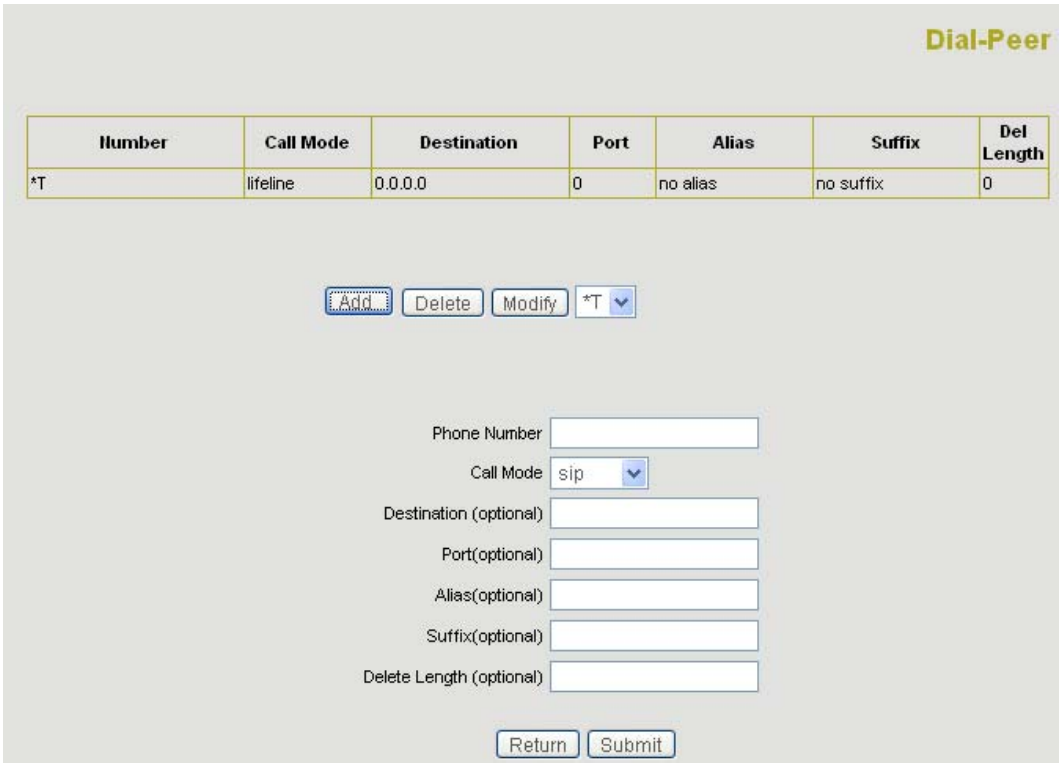
When MMI filter is enable. Only IP address within the start IP and end IP can access AG-188 gateway.

1.5.10 Audio Settings



CODEC: select the prefer CODEC; support ulaw, alaw and G729
Signal Standard: Support CHINA, Japan and USA standard
Input Volume: Handset in volume.
Output Volume: Handset out volume.
G729 Payload Length: G729 payload length
VAD: Enable/disable Voice Activity Detection

1.6 Dial-Peer Settings



Please refer to “how to use dial rule?” for detail.

1.7 Config Manage

Save Config: save current settings.
Clear Config: restore to default settings.

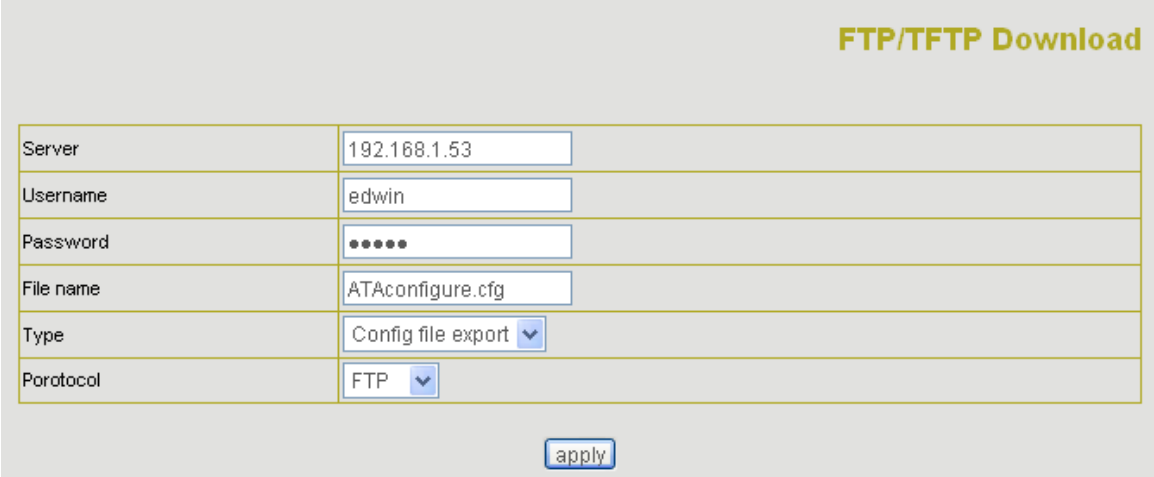
Notice: clear config in admin mode, all settings restores to factory default; clear config in guest modem, all settings except sip, advance sip restore to factory default.

1.8 Update

Web Update: update gateway's settings or firmware. Firmware file is .dlf extension when configure file is .cfg extension, AG-188 will auto select configure update or firmware update according the extension.

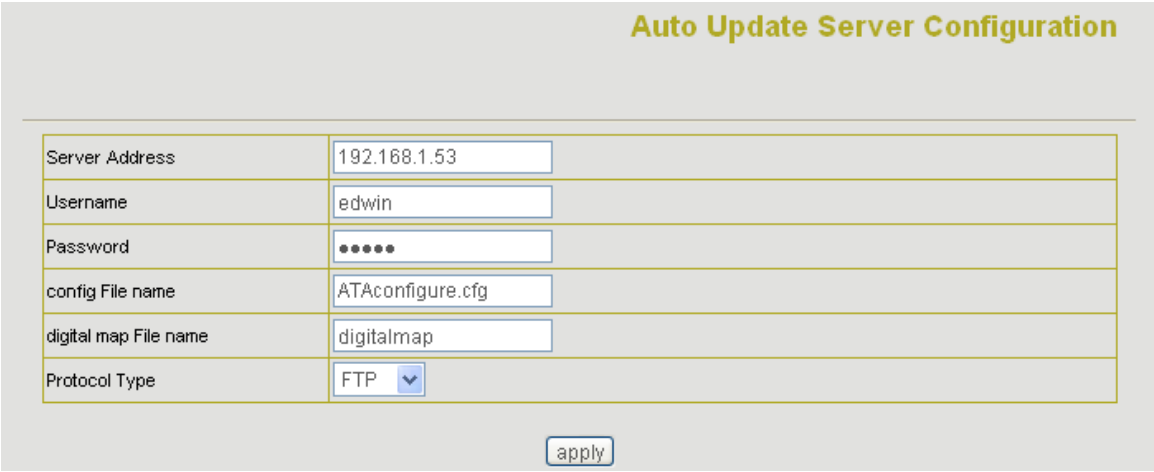
FTP Update: back up the configure file to FTP or TFTP server. Or auto update configure file from your auto update server.

Back up configure file to your FTP/TFTP server.



* configure use .cfg extension.

Auto update: AG-188 gateway support FTP and TFTP auto update. The gateway will auto obtain the configure file from your update server if configured. To obtain the original configure file, you can use the FTP/TFTP back up as describe above. Configure file using module structure, user may remain the concerned modules and remove other modules. Put the configure file in the root directory of update serve when finish editing.



Configure file version was in the <<VOIP CONFIG FILE>> and <GLOBLE CONFIG MODULE> ConfFile Version
For instance:

Gateway original version is:
<<VOIP CONFIG FILE>>Version:1.0000
<GLOBLE CONFIG MODULE> ConfFile Version: 6

User may edit the configure file version to:
<<VOIP CONFIG FILE>>Version:1.0007
<GLOBLE CONFIG MODULE> ConfFile Version: 7

1.9 System Manage

1.9.1 Account Manage

Set web access account or keypad password of AT-530.

1.9.2 Phone Book:

User may set contacts in this page, and the contacts will be saved in the memory. Then using the Pbook, Vol+,Vol-,Menu/OK and Exit keys to choose your friend in the contacts and then press # to call out.

2.9.3 Syslog Config:

2.9.4 Time Set:

Server:type the ip address of time server
Timezone:select correct time zone in list box
Timeout: longest response time for SNTP
Manual Timeset: The time setting
Daylight: Daylight Saving time

2.1.1 Reboot:

Reboot IP phone, some setting needs to reboot to make it works. Please always save config before reboot, otherwise the setting will return to previous setting.

3 Use normal phone to pre-configure AG-188 gateway

User may pre-config AG-188 gateway using a normal phone connecting to AG-188. please refer the below command:
Notice: all command below can be end with # to speed response.

"#****" /*reboot gateway*/
"#*000" /*clear settings*/

"#*100" /*set the IP type to static ip */
"#*101" /*set IP type to DHCP */
"#*102" /*set IP type to PPPoE*/

"#*111" /*prompt gateway ip*/
"#*222" /* prompt phone number*/

Below setting need reboot to take effect
"#*103" /*change to bridge mode*/
"#*104" /*change to router mode*/

"#*50192.168.1.117" set WAN port IP address
"#*51192.168.1.1" set default gateway IP
"#*52202.112.10.37" set dns server
"#*53255.255.255.0" set netmask, use 255.255.255.0 if no be set

4 Telnet Console

4.1 Introduce

4.1.1 Basic structure

User may use telnet command to access and manage gateway.

AG-188 adopts tree structure for telnet. Every node contains its sub-nodes or local command. User can type “help” or “?” whenever to see sub-nodes and all local command under current node.

Besides local command, there are some global commands can be used in each node.

4.1.2 Basic command

Logout: exit telnet mode.

Write: save current settings.

Type sub-nodes name in current node to switch to sub-node.
Type “!” or “exit” in current node to return to parent-node.

Type “help” or “?” can see all sub-nodes and all local command under current node, every help item has comments such as <command> or <node> to distinguish sub-nodes and local command. Type “help” or “?” in command can see all parameters using in this command.

When typing node name or command, user no need to key the full name, use TAB button will make it more efficient.

There are two types in command parameters: optional and required. “required” parameter use “-” as prefix and “optional” use “_” as prefix. User may type “-” or “_” then press TAB button for complementarily.

4.2 Global Command

Global command is available under all nodes, AG-188 support following commands:

Command	Function	Example
chinese	Set to Chinese UI	#chinese
clear	Clear telnet screen	#clear
english	Set to English UI	#english
exit	Return to parent-node	#exit
help	1. Show help info 2. Show sub-nodes and local command	1. #help ping 2. #help
history	Show command history	#history
logout	Exit	#logout
ping	Ping command, use to check network,	#ping www.google.com
tree	Print tree structure of current command	#tree
who	Show current user	#who
write	Save setting to flash	#write

5 Tree Structure

5.1.1 account

path: <account>#

[stop]start Syslog ---syslog [no] start

Configure Syslog server address and port ---syslog server –ip x.x.x.x _port xxx

Example: #<config-account-syslog>#server –ip 202.112.20.10

Show syslog settings ---syslog show

Show all account settings ---show

5.1.2 config

- accesslist firewall config

path: <config-accesslist>#

add firewall rule ---entry –I/O xxx –P/D xxx –proto xxx –srcaddr x.x.x.x –srcmask x.x.x.x–desaddr x.x.x.x –desmask x.x.x.x –portrange xxx –portnum xxx

Example:<config-accesslist>#entry –I/O input –P/D deny –proto udp –straddr 202.112.10.1 –srcmask 255.255.255.0 –desaddr 210.25.132.1 –desmask 255.255.255.0 –portrange neq –portnum 5060

delete firewall rule ---no entry –I/O xxx –index xxx

Example :<config-accesslist>#no entry –I/O input –index 1

Show firewall settings ---show

[disable] enable input filter ---[no]in-access

[disable] enable output filter ---[no]out-access

- DHCP

path: <config-dhcp>#

add DHCP rule ---entry –name xxx –startip x.x.x.x –endip x.x.x.x –netmask x.x.x.x –gateway x.x.x.x –dnsserver x.x.x.x _time xxx

Example:<config-dhcp>#entry –name lan2004 –startip 192.168.1.2 –endip 192.168.1.254 –netmask 255.255.255.0 –gateway 192.168.1.1 –dnsserver 192.168.10.18

delete DHCP rule ---no entry –name xxx

Example: <config-dhcp>#no entry –name lan2004

Show DHCP settings ---show

[disable]enable DNS-relay ---[no]dns-relay

- dialrule

path: <config-dialrule>#

[disable] enable End with # ---[no]endchar

Set end with fix length ---fixlen xxx

Disable end with fix length ---no fixlen

Set timeout to send ---timeout-send xxx

Disable timeout to send ---no timeout-send

Add digital map ---entry –prefix xxx –length xxx

Example: <config-dialrule>#entry –prefix 010 –length 11

Delete digital map rule ---no entry –prefix xxx
Example: <config-dialrule>#no entry –prefix 010
Show current digital map ---show

- LAN interface settings

path: <config-interface-fastethernet-lan>#
[disable]enable bridge mode ---[no]bridgemode
[disable]enable DHCP service ---[no]dhcp-server
[disable]enable NAT ---[no]nat
Show current DHCP rules ---dhcpshow
Show LAN port IP address ---ipshow
Show NAT info ---natshow
Change LAN port IP address ---ip –addr x.x.x.x –mask x.x.x.x
Example:<config-interface-fastethernet-lan>#ip –addr 192.168.1.10 –mask 255.255.255.0

- WAN interface settings

path: <config-interface-fastethernet-wan>#
[disable]enable dhcp client ---[no]dhcp
[disable]enable pppoe ---[no]pppoe
[disable]enable QOS ---[no]qos
Set default gateway IP ---gateway x.x.x.x
Clear default gateway IP ---no gateway
Set WAN port IP address ---ip –address x.x.x.x -mask x.x.x.x
Example:<config-interface-fastethernet-wan>#ip –addr 202.112.241.100 –mask 255.255.255.0
You need to reconnect if the WAN port has been changed.
Show WAN port settings ---show

- MMI Filter

path: <config-mmifilter>#
add filter rule ---entry –start x.x.x.x –end x.x.x.x
Example:<config-mmifilter>#entry –start 202.112.20.1 –end 202.112.20.255
Delete filter rule ---no entry –start x.x.x.x
Example:<config-mmifilter>#no entry –start 202.112.20.1
Show filter rule ---show
[disable]enable MMI filter ---[no]start-filter

- NAT settings

path: <config-nat>#

[disable]enable ftp alg ---[no]ftpalg
[disable]enable ipsec alg ---[no]ipsecalg
[disable]enable pptp alg ---[no]pptpalg
Add TCP mapping rule ---tcp-entry –ip x.x.x.x –lanport xxx –wanport xxx
Example:<config-nat>#tcp-entry –ip 192.168.1.5 –lanport 1720 –wanport 1000
Delete TCP mapping rule ---no entry –ip x.x.x.x –lanport xxx –wanport xxx
Example:<config-nat>#no tcp-entry –ip 192.168.1.5 –lanport 5060 –wanport 1000
Add UDP mapping rule ---udp-entry –ip x.x.x.x –lanport xxx –wanport xxx
Delete UDP mapping rule ---no udp-entry –ip x.x.x.x –lanport xxx –wanport xxx
Show NAT info ---show

- Netservice

path: <config-netservice>#
Set DNS address ---dns -ip x.x.x.x _domain xxx
Example:<config-netservice>#dns –ip 202.112.10.36 _domain voip.com
Set alternate DNS address ---alterdns -ip x.x.x.x _domain xxx
Set hostname ---hostname xxx
Set http access port ---http-port xxx
Show http access setting ---http-port
Set telnet access port ---telnet-port xxx
Show telnet access port ---telnet-port
Set RTP initial port and quantity ---media-port –startport xxx –number xxxx
Example:<config-netservice>#media-port –startport 10000 –number 200
Add route rule ---route –gateway x.x.x.x –addr x.x.x.x –mask x.x.x.x
Example: Arcihfone<config-netservice>#route –gateway 202.112.10.1 –addr 202.112.210.1 –mask 255.255.255.0
Delete route rule ---no route –gateway x.x.x.x –addr x.x.x.x –mask x.x.x.x
Show route info ---route
Show netservice info ---show

- Dial-peer settings

path: <config-pbook>#
[disable]enable calling through GK and proxy ---[no]enableGKandProxy
Add number-IP bond entry ---entry –number xxx –ip x.x.x.x –protocol xxx
Example:<config-pbook>#entry –number 100 –ip 202.112.20.100 –protocol sip

Add number-IP bond and add prefix to the dial number
---entry –number xxx –ip x.x.x.x –protocol xxx _add xxx
Example:<config-pbook>#entry –number 100 –ip 202.112.20.100 –protocol sip _add 123(dial 100 and will send 123100 according this rule)

Add number-IP bond and replace the destination with another number

---entry –number xxx –ip x.x.x.x –protocol xxx _all xxx

Example:<config-pbook>#entry –number 100 –ip 202.112.20.100 –protocol sip _all 123(user dial 100 and gateway will sent 100 instead)

Add number-IP bond and delete the prefix of the destination number

---entry –number xxx –ip x.x.x.x –protocol xxx _del xxx

Example:<config-pbook>#entry –number 1234 –ip 202.112.20.100 –protocol sip _del 2 (dial 1234 will send 34 instead)

Add number-IP bond and replace the prefix with another number

---entry –number xxx –ip x.x.x.x –protocol xxx _rep xxx _length xxx

Example:<config-pbook>#entry –number 1234 –ip 202.112.20.100 –protocol sip _rep 567 _length 2(dial 1234 will send 56734)

Delete dial-peer entry	---no entry –number xxx
Show current dial-peer rules	---show
Set default voip protocol	---default-protocol xxx

- Port settings

path: <config-port># 或<config-port X>#

set accecp relay mode	---accept-relay xxx
set callerid mode	---callerid xxx
disable callerid	---no callerid

config call forward ---callforward –conditon xxx –number xxx –ip xxx –port xxx –protocol xxx

Example:<config-port 0>#callforward –condition busy –number 100 –ip 202.112.10.100 -port 5060 –protocol sip

Disable call forward	---no callforward
[disable]enable call transfer	---[no]calltransfer
[disable]enable call waiting	---[no]callwaiting
Set prefer codec	---codec xxx
Set DTMF gain	---dtmfvolume xxx
Set black list	---in-limit xxx
Show black list	---in-limit
Set input volume	---input xxx
Set outgoing limit list	---out-limit xxx
Show outgoing limit list	---out-limit
Set output volume	---output xxx
[disable]enable outgoing limit	---[no]shutdown out
[disable]enable black list	---[no]shutdown in
[disable]enable outgoing limit and black list	---[no]shutdown
[disable]enable 3-way conference	---[no]threetalk
Show port settings	---show

➢ PPPoE settings

path: <config-pppoe>#

PPPoE account settings ---auth –user xxx -password xxx

Example:<config-pppoe>#auth –user aaa –password 123456

[disable]enable service settings ---[no]service xxx

Show pppoe settings ---show

➢ QOS settings

path: <config-qos>#

[delete]add QoS table entry --- [no]entry –addr x.x.x.x –mask x.x.x.x

Example:<config-qos>#entry –addr 202.112.10.1 –mask 255.255.255.0

[disable]enable include QOS table ---[no]include

Show QoS settings ---show

➢ SIP settings

path: <config-sip>#

[disable]enable registration ---[no] register

[disable]enable auto detect server ---[no] detect-server

Set sip domain ---default-domain xxx

Set DTMF mode ---dtmf-mode xxx

Set auto detect interval time ---interval-time xxx

Set RFC edition ---rfc-version xxx

[disable]enable auto swap server --- [no]swap-server

Set sip account ---number-password –number xxx –password xxx

Set local SIP signal port --- signalport xxx

Set proxy server ---server proxy -ip x.x.x.x _port xxx _user xxx _password xxx

Example:<config-sip-server># proxy ip 210.25.23.22 _port 5060 _user aaa _password 123456

Set register server info ---server register -ip x.x.x.x _port xxx –user xxx _password xxx

Set alter proxy info ---alter-server proxy –ip x.x.x.x _port xxx _user xxx _password xxx

Set alter server info ---alter-server register –ip x.x.x.x _port xxx _user xxx _password xxx

[disable]enable stun server ---stun [no]enable

Set stun detecting interval time ---stun interval-time xxx

Set stun server ip and port ---stun –ip x.x.x.x –port xxx

Show current sip info ---show

- User management

path: <config-user>#

Change user right. ---access –user xxx –access xxx

Example:<config-user>#access –user aaa –access 7

Change user password ---password –user xxx

Add new user ---entry –user xxx –access xxx

Example:<config-user>#entry –user abc –access 7

Delete user entry ---no entry –user xxx

Show current sip info ---show

5.1.3 Debug (Level 0~7)

path: <debug>#

show debug setting	---show
[disable]enable debug all modules	---[no] all xxx
[disable]enable debug app module	---[no] app xxx
[disable]enable debug cdr module	---[no] cdr xxx
[disable]enable debug sip module	---[no] sip xxx
[disable]enable debug tel module	---[no] tel xxx
[disable]enable debug dsp module	---[no] dsp xxx

5.1.4 download configure to flash

usage: #download tftp –ip x.x.x.x –file xxx

#download ftp –user xxx –password xxx –ip x.x.x.x –file xxx

Example: #download ftp –user abc –password 123 –ip 202.112.20.15 –file AG188.cfg

5.1.5 password

usage: #password

Enter new password:xxx

Confirm new password:xxx

5.1.6 reload

usage: #reload

Reboot system

5.1.7 show system running info

- accesslist

path: <show>#

show: accesslist (firewall) settings

Example: #<show>#accesslist

- basic

path: <show>#

show network status

Example: #<show>#basic

- call

path: <show>#

show current call info

Example: #<show>#call active

- capability

path: <show>#

show CODEC capability

Example: #<show>#capability

- debugging

path: <show>#
show debug info
Example:#<show>#debugging

- dhcp-server

path: <show>#
show LAN status and DHCP server info
Example:#<show># dhcp-server

- dial-rule

path: <show>#
show digital-map info
Example:#<show># dial-rule

- interface

path: <show>#
show LAN info
Example:#<show>#interface fastethernet lan
show WAN info
Example:#<show>#interface fastethernet wan

- ip

path: <show>#
show arp table info
Example:#<show>#ip arp

Show DNS gateway info
Example:#<show>#ip dns

Show netstate info
Example:#<show>#ip netstat

Show route info
Example:#<show>#ip route

Show icmp packets Stat.
Example:#<show>#ip icmp

Show igmp packets Stat.
Example:#<show>#ip igmp

Show ip packets Stat.
Example:#<show>#ip ip

Show RTP packets Stat.
Example:#<show>#ip rtp

Show TCP packets Stat.
Example:#<show>#ip tcp

Show UDP packets Stat.
Example:#<show>#ip udp

- memory

path: <show>#
show gateway memory
Example:#<show>#memory

- nat

path: <show>#
show NAT information
Example:#<show>#nat

- port

path: <show>#
show caller-ID info
Example:#<show>#port callerID

show dsp info
Example:#<show>#port dsp

show hotline info
Example:#<show>#port hotline

show black list info
Example:#<show>#port in-limit

show outgoing limit info
Example:#<show>#port out-limit

show current phone number
Example:#<show>#port number

show current port status
Example:#<show>#port status

- PPPoE

path: <show>#
show PPPoE info
Example:#<show># pppoe

- qos

path: <show>#
show QoS table info
Example:#<show>#qos

- sip

path: <show>#
show sip info
Example:#<show>#sip

- udptunnel

path: <show>#
show UDP tunnel info
Example:#<show># udptunnel

- uptime

path: <show>#
show running time
Example:#<show># uptime

- version

path: <show>#
show gateway version
Example:#<show># version

5.1.8 telnet and logout

Usage: #telnet –target -port
Login:xxx
Password:xxx
#
#logout

5.1.9 timesettings

path: <time>#
---manualset –year xxx –month xxx –day xxx –hour xxx –minute xxx –second xxx
Example:<time>#manulset –year 2004 –month 10 –day 1 –hour 8 –minitute 30 –second 0
[disable]enable SNTP server ---sntp [no] start

Set SNTP IP address	---sntp server x.x.x.x
Set SNTP server timeout	---sntp timeout xxx
Set timezone (-12~+12)	
	---sntp zone xxx
Show SNTP info	---sntp show
Show current time	---print

5.1.10 tracert trace network path info

usage: #tracert –host

Example:#tracert www.google.com

5.1.11 update gateway

usage: # update ftp –user xxx –password xxx –ip x.x.x.x –file xxx

update tftp –ip x.x.x.x –file xxx

Example:# update ftp –user abc –password 123 –ip 202.112.20.15 –file AG188.dlf

5.1.12 upload configure file

usage: # upload ftp –user xxx –password xxx –ip x.x.x.x –file xxx

upload tftp –ip x.x.x.x –file xxx

6 Network Diagnosis

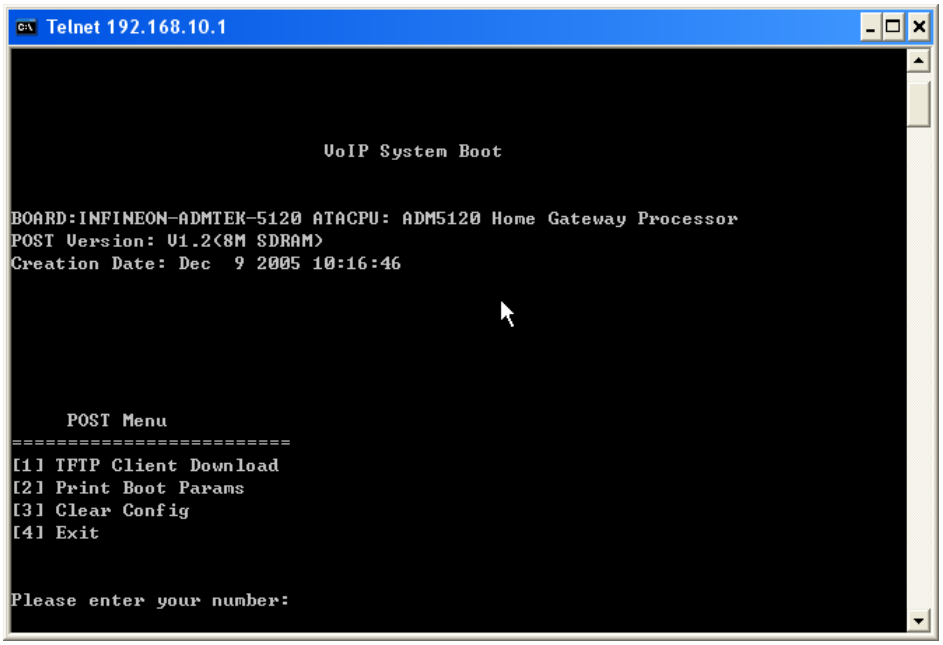
There are some telnet commands for checking your network. Now Listing below for your information

Command	Function	Example
ping	Check if the destination is accessible	#ping www.google.com
tracert	Show network path info	#tracert www.google.com
show basic	Show network settings	#show basic
show ip route	Show route table	#show ip route
show ip arp	Show arp table	#show ip arp
show ip netstat	Netstat programe	#show ip netstat
telnet	Telnet to another device	#telnet 192.168.1.2

7 Restore to factory default

#setdefault clear gateway settings expect network part
#setdefault all clear all settings.

8 POST Mode(safe mode)



AG-188 provide safe mode. When there is booting problem because of setting problem or firmware problem. User can restore the factory setting or upgrade to a new firmware to solve this problem.

How to enter safe mode?
In the AG-188 booting procedure, it use the static ip 192.168.1.179 (WAN port IP) for a short time, user can telnet to this ip address in this occasion to enter the save mode.(remember to change your PC into the network 192.168.1.xx)
Then user can according the guide in post mode to clear the settings or upgrade the firmware.

9 FAQ

How many SIP servers may AG-188 register simultaneously?

AG-188 support 2 SIP servers and a IAX server. The Default server is SIP . If you want to use the IAX server you must set IAX as default protocol in the IAX config page. IAX and SIP can register simultaneously but not work simultaneously. If you set 2 SIP servers in the SIP setting page , you can choose the route (server) by dialing plan which is edited by you. Please see "How to use the dial rule?" for detail.

How can I know the AG-188's IP address?

Pick up the handset and then dial "#*111#", and the AG-188 will promote you its IP address.

How to use AG-188's Lifeline function?

AG-188 supports Lifeline function, you can use the same handset to place PSTN and VoIP calls. First, you need to set up the Lifeline with the accessory send with the AG-188, connect this accessory to AG-188's FXS port, and then connect the handset to the accessory's phone port, connect the landline to the accessory's line port. You can receive PSNT and VoIP calls simply with configuration. To place the PSTN call, you need to set up as follow:

----Add a new dial rule in the *Dial-Peer* setting: set the phone number to *T, and choose the Lifeline as the Call mode.

----Add new Digital map item in the *Advance →Digital Map*: set Prefix Number to and *, and the length to 1.

Then when you want to place a PSTN calls, you can first press * to switch to the PSTN line and then place your call as you normal do.

Why the settings vanish after reboot?

Please go to Config Manage→Save Config to save your setting always.

How to use the dial rule?

AG-188 provide flexible dial rule, with different dial-rule configure, user can easily implement the following function:

----Replace, delete or add prefix of the dial number.

----Make direct IP to IP call

----Place the call to different SIP server according the prefix.

----Make PSTN calls use Lifeline function (Please refer "How can use the Lifeline function of AG-188?").

You can click "Add" to add a new dial rule. Below is the detail setting of the dial-rule:

Phone Number: The Number suit for this dial rule, cam be set as full match or prefix match. Full match means that if the number user dialed is completely the same as this number, the call will use

this dial-rule. Prefix match means that if prefix of the number that the user dials is the same as the prefix, the call will use this dial-rule, to distinguish from the full match case, you need to add "T" after the prefix number in the phone number setting.

Call Mode: support SIP and Lifeline，SIP means the call will use sip protocol，Lifeline means the call will use the PSTN line.

Destination (optional): call destination, can be IP or domain. Default is 0.0.0.0, in this case the call will be routed to the Public SIP server. If you set the destination to 255.255.255.255, then the call will be routed to the private SIP server. Also you can key other address here to make direct IP calls

Port (optional): Configure the port of the destination, default is 5060

Alias (optional): Set up the Alias. We support four Alias as below. Alias need to co-work with the *Del Length*:

- add:xxx, add prefix to the phone number, can set to reduce the dial length.
- all: xxx, replace the phone number with the xxx, can use as speed dial function.
- del, delete the first N numbers. N is set in the *Del Length*
- rep:xxx， replace the first N numbers. N is set in the Del Length. For Example: Use wants to place a call 8610-62281493, then you can set the *phone number* in the dial rule as 010T, and set the *Alias* as rep:8610, and set the *Del Length* to 3. Then all calls begin with 010 will be changed to 8610 xxxxxxxx.

Suffix (optional): Configure suffix, show no suffix if not set

Instance:

Dial-Peer

Number	Call Mode	Destination	Port	Alias	Suffix	Del Length
2T	sip	255.255.255.255	5060	del	no suffix	1
3T	sip	0.0.0.0	5060	del	no suffix	1
123	sip	0.0.0.0	5060	all:8675583018049	no suffix	0
0T	sip	0.0.0.0	5060	rep:86	no suffix	1
*T	lifeline	0.0.0.0	0	no alias	no suffix	0
179	sip	192.168.1.179	5060	no alias	no suffix	0

2T rule: If the call starts with 2, the first 2 will be deleted, and the rest number will be sent to private server.

3T rule: If the call starts with 3, the first 3 will be deleted, and the rest number with be sent to public server.

123 rule: Dial 123 and will send 8675583018049 to your server. Used as speed dial function.

0T rule: If the calls is begin with 0, the first 0 will be replace by 86. Means that if you dial 075583018049 and AG-188 will send 8675583018049 to your server.

***T rule**: Dial the * and the line with switch to PSTN. Note that you need to set another rule "Prefix Number: *; Length: 1" in the Digital Map. (Refer "How to use AG-188's Lifeline Function?")

179 rule: when you dial 179 , the call with send to 192.168.1.179, suit for LAN application without set up a sip server.

How to use speed dial function?

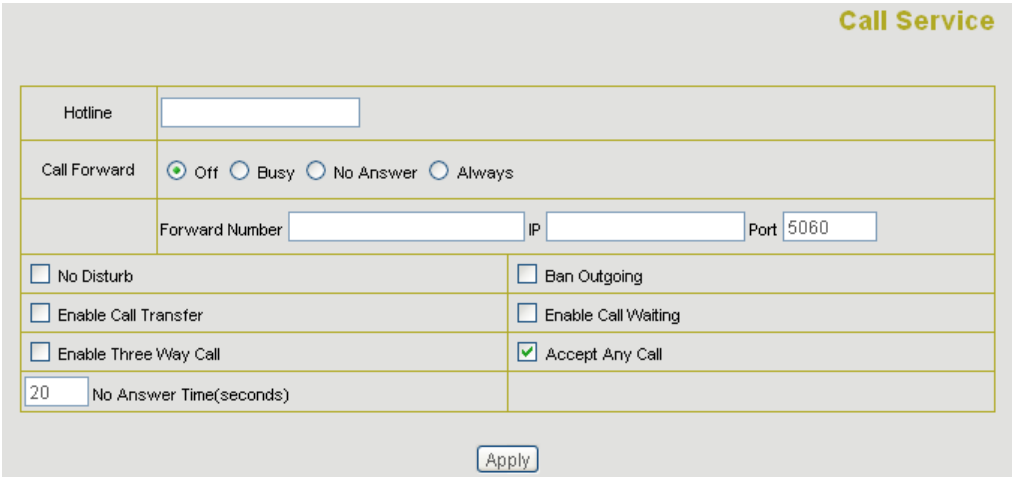
Please refer to "How to use dial rule?".

How to configure digital map?

Please refer digit map settings.

How to use Call Forward, Call Transfer and 3-way Conference calls?

User may set up the configuration in the *Call Service* page to use these value add service.



➢ Call Forward:

----Forward when busy: select *Busy* in the *Call Forward* Field, and Key in the destination phone number in the *Forward Number*. If some one calls you when you having a call, the caller will be forwarded to the destination number.

----Forward no answer: Select *No Answer* in the *Call Forward* Field, and Key in the destination phone number in the *Forward Number*, fill the time in the *No Answer Time*. If some one calls you and no one answer the caller during the No Answer Time, the call will be forward to the destination number.

----Forward Always: Select *Always* in the *Call Forward* Field, and Key in the destination phone number in the *Forward Number*, then any one calls this gateway will be forward to the destination number.

➢ Call Transfer:

Check the *Enable Call Transfer*.

If A is the AG-188 user, and B calls and talking with A through VoIP. A can **press the Hook-Flash** to hold the call with B, and then press ***** and then **enter C's number**. B will be transferred to C and can talk with C.

- 3-Way Conference Calls

Check Enable Three Way Call

Assume A is the AG-188 user, and B calls and talking with A through VoIP. A can **press Hook-Flash** to hold the call with B, then **enter C's number** to talk with C, and then **press Hook-Flash** again switch back to user B , then A can press ***** to make 3-way conference calls.

Notice: A can press **Hook-Flash** to switch between B and C. or press # to cancel the current call and switch to the other user.